SYSTEM FOR FREQUENCY-DOMAIN SCALING FOR DISCRETE COSINE TRANSFORM

ABSTRACT OF THE DISCLOSURE

A system for frequency-domain scaling for DCT computation. Scale factors are applied to coefficients during the final steps of composition of 2-point DCTs. The number of multiplications and required precision are reduced. Fixed values for various scale factors can be computed and stored prior to executing the DCT so that performance can be improved. The fixed values are derived by knowing the length of the time-domain sequence. Some fixed values can be derived independently of the length of the time-domain sequence. The approach of the invention can also reduce the number of multiplications to compute the transform, and allow smaller bit-width sizes by reducing the number of required high-precision calculations.